



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/538,485

03/17/2006

Yoshihiko Minachi

81864.0065

2276

26021 7590 05/28/2009

HOGAN & HARTSON L.L.P.
1999 AVENUE OF THE STARS
SUITE 1400
LOS ANGELES, CA 90067

EXAMINER

CHAU, LINDA N

ART UNIT

PAPER NUMBER

1794

NOTIFICATION DATE

DELIVERY MODE

05/28/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

laprosecution@hhlaw.com
ctkeyner@hhlaw.com
jalonso-sida@hhlaw.com

Office Action Summary	Application No. 10/538,485	Applicant(s) MINACHI ET AL.	
	Examiner LINDA CHAU	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1794

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-9 and 11-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Although the instant specification teaches that x is in the range of $0.10 \leq x \leq 0.70$ or $0.30 \leq x \leq 0.70$, there is no support in the specification that x is $0.14 \leq x \leq 0.70$.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 and 11-17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kijima et al. (JP 02-180004; herein referred to under the English translation PTO 09-1223).

Regarding claims 1, 3-6, 9, and 14-17, Kijima teaches a ferrite magnet powder have a composition of $\text{MeFe}^{2+}_{2+x}\text{Fe}^{3+}_{16-x}\text{O}_{27}$, wherein M is consisting of Ba, Sr, and Pb, and $x = +0.05$ to -0.10 . Further, Kijima discloses that Zn is added to the compound such that zinc is 1.0-10mol% of Fe^{2+} (claim 1). Kijima doesn't explicitly disclose that Zn is in a form $\text{Zn}_{(\text{ax})}$ described by the limitation. However, on the one hand, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the range of zinc as described by the applicant based upon the mole percentages. In light of the amount of Zn disclosed by Kijima, it would have been obvious to one of ordinary skill in the art at the time of the invention to use amounts of Zn and Fe^{2+} , including those presently claimed, in order to produce stabilized W phase that does not deteriorate (pg. 7). On the other hand, given that Kijima discloses ferrite magnet powder with similar properties and functions, as presently claimed, it would appear that the composition of zinc would overlap the range claimed by the applicant. Furthermore, Kijima also teaches a resin phase that disperses and retains the ferrite magnetic powder (claim 2). Further, Kijima uses the magnetic powders in plastic magnets or bonded magnets and teaches that it known in the art to incorporate the ferrite magnet powder in sintered magnets (pg. 3). However, Kijima further emphasizes that plastic magnets have various advantages over sintered magnets (pg. 3-4).

Regarding claim 2, Kijima teaches that the powder is characterized in a W-type ferrite phase (pg. 7).

Art Unit: 1794

Regarding claim 7-8 and 11-13, given that Kijima disclose magnetic powder or magnet as presently claimed, it is clear that the magnetic powder would inherently or intrinsically possess saturation magnetization as presently claimed while the magnet would inherently or intrinsically possess saturation magnetization, squareness, and residual magnetic flux density as presently claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7-8, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kijima et al. (JP 02-180004; herein referred to under the English translation PTO 09-1223) and further in view of Toyota (US 5,866,028).

Regarding claim 7, Kijima teaches a magnet powder as set forth above, however, doesn't teach that the ferrite magnet powder has a saturation magnetization of 5.0 kG or more. Toyota teaches a W-type ferrite magnet (Abstract) having a saturation magnetization of 5.0 kG (col. 7, line 65). It would have been obvious to one of ordinary skill in the art at the time of the invention to have Kijima magnet to be of 5.0 kG of saturation magnetization in order to fabricate stronger ferromagnetism (col. 1, lines 46-47).

Regarding claims 8 and 11, Kijima teaches a magnetic powder as set forth above. Toyota teaches a W-type ferrite magnet (Abstract) having a saturation magnetization of 5.0 kG (col. 7,

Art Unit: 1794

line 65) but doesn't teach a saturation magnetization of 5.1 kG or more. It would have been obvious to one of ordinary skill in the art at the time of the invention to optimize Toyota's magnetization to 5.1 kG in Kijima's magnet, since Toyota teaches that having a larger degree of magnetization will have a much stronger ferromagnetism (col. 1, lines 39-47).

Regarding claim 13, Toyota teaches a saturation magnetization of 5.0 kG and a residual magnetic flux density of 4.8 kG (col. 7, line 65). It would have been obvious to one of ordinary skill in the art at the time of the invention to have Kijima magnet to be of 5.0 kG of saturation magnetization in order to fabricate stronger ferromagnetism (col. 1, lines 46-47). Further, it would have been obvious to one of ordinary skill in the art at the time of the invention to have Kijima's magnet to be of 4.2 kG in residual magnetic flux density as taught by Toyota in order to achieve excellent magnetic property (col. 2, lines 4-11).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kijima et al. (JP 02-180004; herein referred to under the English translation PTO 09-1223), in view of Toyota (US 5,866,028), and further in view of Taguchi et al. (US 6,258,290).

Regarding claim 12, Kijima teaches a magnet powder as set forth above but doesn't teach a saturation magnetization of 5.0 kG or more and a squareness of 80% or more. Toyota teaches a W-type ferrite magnet (Abstract) having a saturation magnetization of 5.0 kG (col. 7, line 65). It would have been obvious to one of ordinary skill in the art at the time of the invention to have Kijima magnet to be of 5.0 kG of saturation magnetization in order to fabricate stronger ferromagnetism (col. 1, lines 46-47). Further, Taguchi teaches a magnet powder of having a squareness of more than 80% (Table 4). It would have been obvious to one of ordinary skill in

Art Unit: 1794

the art at the time of the invention to have Kijima's magnet be of 80% in squareness, since Taguchi teaches that it will provide excellence in demagnetization (col. 33, lines 52-53).

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kijima et al. (JP 02-180004; herein referred to under the English translation PTO 09-1223) and further in view of Taguchi et al. (US 6,258,290).

Regarding claim 18, Kijima teaches a magnet powder as set forth above in claim 1 but Kijima doesn't teach that the ferrite magnet powder may be used in a magnetic layer of a magnetic recording medium. Taguchi teaches a hexagonal magnet ferrite powder is used in a magnetic layer over a substrate (col. 9, lines 44-49). It would have been obvious to one of ordinary skill in the art at the time of the invention to have Kijima's magnet powder to be used in a magnetic layer as taught by Taguchi in order to have multiple usages of the magnet powders.

Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kijima et al. (JP 02-180004; herein referred to under the English translation PTO 09-1223), in view of Taguchi et al. (US 6,258,290), and further in view of Toyota (US 5,866,028).

Regarding claim 19-20, Kijima in view of Taguchi teaches a magnetic recording medium as set forth above but doesn't teach a saturation magnetization of 5.2 kG. Toyota teaches a residual magnetic density is of 4.8 kG and a saturation magnetization of 5.0 kG but doesn't explicitly teach a saturation magnetization can be of 5.2 kG or more (col. 7, line 65). However, it would have been obvious to one of ordinary skill in the art at the time of the invention to optimize Toyota's magnetization to 5.2 kG in the recording medium, since Toyota teaches that

Art Unit: 1794

having a larger degree of magnetization will have a much stronger ferromagnetism which will be optimal in a magnetic recording medium (col. 1, lines 39-47).

Response to Arguments

Applicant's arguments filed 3/16/09 have been fully considered but they are not persuasive.

Applicant argues that the applied references do not disclose or suggest the features of the composition formula. Applicant argues that the amended claim provides a range of Fe^{2+} of under 1.9 and Kijima requires Fe^{2+} between 1.9-2.05. The examiner respectfully disagrees. Kijima teaches a ferrite magnet powder have a composition of $\text{MeFe}_{2+x}^{2+}\text{Fe}_{16-x}^{3+}\text{O}_{27}$, wherein M is consisting of Ba, Sr, and Pb, and $x = +0.05$ to -0.10 , which does teaches the ranges as claimed (Kijima: $x = -1$ and claim 1: $x = 0.5$ and $a = 2$).

Further, applicant argues Kijima doesn't teach the Zinc as presently claimed because the Zn amount would become too large for the Fe^{2+} and will lead to a reduction in magnetic properties. The examiner respectfully disagrees. Although Kijima doesn't explicitly disclose that Zn is in a form $\text{Zn}_{(ax)}$ described by the limitation, Kijima does disclose that Zn is added to the compound such that zinc is 1.0-10mol% of Fe^{2+} (claim 1). However, on the one hand, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the range of zinc as described by the applicant based upon the mole percentages. In light of the amount of Zn disclosed by Kijima, it would have been obvious to one of ordinary skill in the art at the time of the invention to use amounts of Zn and Fe^{2+} , including those presently claimed, in

Art Unit: 1794

order to produce stabilized W phase that does not deteriorate (pg. 7). On the other hand, given that Kijima discloses ferrite magnet powder with similar properties and functions, as presently claimed, it would appear that the composition of zinc would overlap the range claimed by the applicant. Further, the present claim does not define the limitation of having the Fe^{2+} be reduced by Zn.

Applicant argues that Kijima fails to disclose a sintered magnetic and a magnetic recording medium. Kijima uses the magnetic powders in plastic magnets or bonded magnets and teaches that it known in the art to incorporate the ferrite magnet powder in sintered magnets (pg. 3). However, Kijima further emphasizes that plastic magnets have various advantages over sintered magnets (pg. 3-4). Therefore, Kijima teaches that it can be used in sintered magnets but doesn't produce the desired magnetic characteristics. Kijima is not used to teach a magnetic recording medium. This is already taught by Taguchi.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Kijima is used to teach the composition as claimed and Toyota is used to teach the saturation magnetization of a ferrite powder. Further, application argues that Kijima discloses that a residual magnetic flux density B_r attains a maximum of 3.15 kG while applicant has a claim of 4.2 kG or more. Applicant argues that if Kijima taught Applicant's composition,

Art Unit: 1794

then the measured properties would be expected to be the same. Kijima only showed a working example of the composition and not the overall result. It is deemed that Kijima teaches the same properties as presently claimed, as set forth above. Further, the working examples show the results of a remnant flux density (Br) and not the saturation magnetization (Ms) as presently claimed. These two magnetic properties are related, but different.

Applicant argues that Taguchi fails to disclose applicant's saturation magnetization of 5.0 kG, but does teach a squareness of 80% or more. However, Taguchi is not used to teach saturation magnetization. This is already taught by Toyota. Further, in Table 4 of Taguchi, when the saturation magnetization is increased, the squareness is also increase. Therefore, it is deemed that Toyota's magnetic particle would also have a squareness of more than 80%.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 1794

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LINDA CHAU whose telephone number is (571)270-5835. The examiner can normally be reached on Monday-Thursday, 8:00-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Bernatz, acting SPE for Carol Chaney can be reached on (571) 272-1505. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Linda Chau
/LC/

/Kevin M Bernatz/
Acting SPE of Art Unit 1794

May 22, 2009